IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA
GREENSBORO DIVISION

Esoterix Genetic Laboratories, LLC and The Johns Hopkins University, Plaintiffs, vs. Myriad Genetics, Inc. and Myriad Genetic Laboratories, Inc., Defendants.	)	Civil Action No. 16-cv-1112 **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs Esoterix Genetic Laboratories, LLC ("EGL") and The Johns Hopkins University ("JHU") (collectively, "Plaintiffs") for their complaint against Defendants Myriad Genetics, Inc., and Myriad Genetic Laboratories, Inc., (collectively "Myriad") allege as follows:

NATURE OF ACTION

1. This is an action under the patent laws of the United States, 35 U.S.C. § 1, *et seq.*, for infringement by Myriad of patents owned by JHU and exclusively licensed by EGL.

THE PARTIES

2. Plaintiff EGL is a Delaware limited liability company with a principal place of business at 531 South Spring Street, Burlington, North Carolina 27215. EGL is a

wholly-owned subsidiary of Laboratory Corporation of America Holdings (also known as LabCorp), which is headquartered in Burlington, North Carolina.

3. Plaintiff JHU is a private, not-for-profit corporation organized under the laws of the State of Maryland and has its principal place of business in Baltimore, Maryland.

4. On information and belief, Defendant Myriad Genetics, Inc., is a corporation incorporated under the laws of the State of Delaware with a principal place of business at 320 Wakara Way, Salt Lake City, Utah, 84108.

5. On information and belief, Defendant Myriad Genetic Laboratories, Inc., is a corporation incorporated under the laws of the State of Delaware with a principal place of business at 320 Wakara Way, Salt Lake City, Utah, 84108. On information and belief, Myriad Genetic Laboratories, Inc., is a wholly-owned subsidiary of Myriad Genetics, Inc.

JURISDICTION AND VENUE

6. This is a patent infringement action, and this Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has personal jurisdiction over Myriad because, at a minimum, Myriad regularly conducts business in this District and has offered for sale and sold infringing services in this District, among other places. Myriad sells, offers for sale, and has sold genetic testing products and services to residents of this District. Myriad has advertised, presented, and marketed to residents in this jurisdiction products and services it sells, offers for sale, and has sold relating to its genetic testing products. Myriad has business relationships and/or has collaborated with medical service providers, multiple

businesses, and/or research entities, including Duke University and the University of North Carolina at Chapel Hill, in this District. Myriad employs persons to provide education and support concerning its products and services to healthcare providers that are residents in this jurisdiction. Myriad Genetic Laboratories, Inc., is registered to do business in the State of North Carolina with the North Carolina Secretary of State and maintains a registered agent in North Carolina.

8. Venue is proper in this judicial district pursuant to at least 28 U.S.C. §§ 1391 and 1400 at least because injuries from Myriad's actions are felt in this District, Myriad engages in actions of infringement in this District, Myriad is subject to personal jurisdiction in this District, and Myriad conducts substantial business and has substantial contacts with the State of North Carolina and within this District.

BACKGROUND FACTS

9. Plaintiffs are leaders in the field of genetic testing for hereditary cancer risk-markers. Each of the patents asserted herein relate generally to genetic testing, including for hereditary cancer risk-markers.

10. The two named inventors on United States Patent No. 6,440,706, United States Patent No. 7,824,889, United States Patent No. 7,915,015, and United States Patent No. 8,859,206 (collectively "Patents-in-Suit") are Dr. Bert Vogelstein and Dr. Kenneth W. Kinzler. Both Dr. Vogelstein and Dr. Kinzler are affiliated with The Johns Hopkins Sidney Kimmel Comprehensive Cancer Center. Dr. Vogelstein is a very well-known pioneer in the field of cancer genomics. Among other awards and achievements, Dr. Vogelstein is a prolific author of scientific articles in the genetics field, which include

some of the most frequently cited references in the field, and was named as one of the 11 scientists who received The Breakthrough Prize in Life Sciences in its inaugural year. Dr. Kinzler is likewise well known in the genetics field and was recently elected to the National Academy of Medicine, an honor to which Dr. Kinzler was elected by his peers for his accomplishments and contributions to medical sciences, health care, and public health.

11. EGL, as the exclusive licensee of the Patents-in-Suit, provides tests that detect mutations in genes, including mutations which have been associated with an increased risk of developing cancers.

12. Myriad makes, uses, offers for sale, and sells, without authorization, services, products, and/or methods that infringe the Patents-in-Suit.

13. EGL is the exclusive licensee of United States Patent No. 6,440,706 (hereinafter referred to as "the '706 patent") which duly and legally issued on August 27, 2002 and is entitled "Digital Amplification." The '706 patent is assigned to and owned by JHU. The '706 patent was reexamined by the United States Patent and Trademark Office ("USPTO"). After reexamination, the USPTO certified the '706 patent, as amended, as valid on October 24, 2014. A true and correct copy of the '706 patent, including the reexamination certificate, is attached to this Complaint as Exhibit A.

14. EGL is the exclusive licensee of United States Patent No. 7,824,889 (hereinafter referred to as "the '889 patent") which duly and legally issued on November 2, 2010 and is entitled "Digital Amplification." The '889 patent is assigned to and owned by JHU. The '889 patent was reexamined by the USPTO. After reexamination, the

USPTO certified the ’889 patent, as amended, as valid on October 31, 2014. A true and correct copy of the ’889 patent, including the reexamination certificate, is attached to this Complaint as Exhibit B.

15. EGL is the exclusive licensee of United States Patent No. 7,915,015 (hereinafter referred to as “the ’015 patent”) which duly and legally issued on March 29, 2011 and is entitled “Digital Amplification.” The ’015 patent is assigned to and owned by JHU. The ’015 patent was reexamined by the USPTO. After reexamination, the USPTO certified the ’015 patent, as amended, as valid on October 23, 2014. A true and correct copy of the ’015 patent, including the reexamination certificate, is attached to this Complaint as Exhibit C.

16. EGL is the exclusive licensee of United States Patent No. 8,859,206 (hereinafter referred to as “the ’206 patent”) which duly and legally issued on October 14, 2014 and is entitled “Digital Amplification.” The ’206 patent is assigned to and owned by JHU. A true and correct copy of the ’206 patent is attached to this Complaint as Exhibit D.

17. Previously, Plaintiffs accused Life Technologies, Inc. (“Life Technologies”) of infringing the ’706 patent, the ’889 patent, and the ’015 patent before this Court in Civil Action No. 1:12-cv-01173. In response to the complaint, Life Technologies sought reexamination of the ’706 patent, the ’889 patent, and the ’015 patent before the USPTO. In each of the patent reexaminations, Life Technologies identified prior art that had not been considered before by the USPTO. After its review

and consideration of the prior art, the USPTO issued reexamination certificates for all three patents, finding each patent valid.

18. The USPTO has found the claims of the asserted patents to claim novel and non-obvious methods after reviewing over 100 prior-art documents, including scientific articles from peer-reviewed journals. Over 180 U.S. patent publications have cited one or more of the asserted patents.

19. Moreover, the combination of the diluting (or distributing) and amplifying steps as specified in the claims is often referred to as "digital PCR," itself an inventive concept. A 1999 paper by the inventors of the asserted patents discussed the digital PCR method. (Vogelstein and Kinzler, 1999). Subsequent literature by other scientists recognized digital PCR as a "powerful new tool" (Zimmermann, et al., 2008) that "provides unprecedented opportunities" (Pohl, et al., 2004). For example, a *Nature Methods* article in 2012 quoted a prominent British scientist who had studied the new technology in comparison with the prior art: "Digital PCR offers more accuracy and less ambiguity" than earlier technologies. (Baker, 2012). As another example, scientists explain that digital PCR allows "much higher accuracy and sensitivity" than previous technologies. (Li, et al., 2016). This "recently invented 'digital' PCR format" enabled scientists to overcome known problems with quantitative aspects of PCR. (Chetverina, et al., 2002). Claims of the asserted patents claim applications of this inventive concept to improve detection of particular gene sequences in a sample, to determine the composition of the original sample, to improve diagnoses, and for other purposes. As such, digital PCR provides a technical improvement for genetics, genomics, and medical science. The

claims recite processes to achieve a desired outcome using a new and useful laboratory technique. The claim elements, when viewed individually and as a whole, are far from routine or conventional.

20. EGL has the right to enforce the Patents-in-Suit, including the right to recover past damages, collect ongoing royalties, and pursue any other legal or equitable relief.

ACCUSED INFRINGER

21. Defendant Myriad is a diagnostic company that provides various services, products, kits, and devices, directly and through its subsidiaries, that are used in methods for detecting ratios of genetic sequences, detecting allelic imbalances, or detecting a quantity of a genetic sequence in a mixed population of human genomic nucleic acid sequences.

22. Myriad makes, uses, offers for sale, and sells, among other products and services, products and services known as its myRisk® Hereditary Cancer test and service that is a multi-gene panel that identifies an elevated risk for multiple types of cancers. Myriad's myRisk® Hereditary Cancer test uses digital polymerase chain reaction ("dPCR") technology available through RainDance Technologies.

23. Myriad purports that it takes in over 1,000 samples on a typical day in connection with its tests and services.

24. On information and belief, Myriad's myRisk® Hereditary Cancer test dilutes or distributes nucleic acid template molecules that have been isolated from a biological sample into droplets to form a set of assay samples. In conducting the

myRisk® Hereditary Cancer test, Myriad amplifies the isolated nucleic acid molecules within the assay samples to form a population of amplified molecules in the assay samples of the set. On information and belief, Myriad uses the "ThunderStorm®" system available through RainDance Technologies to carry out these steps.

25. On information and belief, Myriad analyzes the amplified molecules in the assay samples of the set to determine a first number of assay samples which contain the selected genetic sequence and a second number of assay samples which contain a reference genetic sequence (or first and second alleles of the selected sequence). On information and belief, Myriad then compares the first number to the second number to determine the composition of the biological sample.

26. Myriad's combination of steps infringes at least claim 1 of each of the Patents-in-Suit.

27. Without permission, Myriad is making, using, offering for sale, and/or selling products and services that constitute direct infringement of the Patents-in-Suit. On information and belief, Myriad, either directly or through entities under its control or influence, makes, uses, offers for sale, and/or sells products or services that fall within the scope of one or more claims of the Patents-in-Suit, in the United States, including at least claim 1 of the '706 patent, claim 1 of the '889 patent, claim 1 of the '015 patent, and claim 1 of the '206 patent. For example, Myriad's infringing products and services include the services marketed as, or otherwise known as, Myriad's myRisk® Hereditary Cancer test, as described above. These activities and others, including other similar products and services, directly infringe the Patents-in-Suit.

28. Myriad has knowledge of the Patents-in-Suit at least through the filing of this Complaint.

COUNT I
(Direct Infringement of United States Patent No. 6,440,706 by Myriad)

29. Plaintiffs reallege and incorporate herein by reference the allegations stated in paragraphs 1-28 of this Complaint.

30. Myriad has infringed and continues to directly infringe the ’706 patent in violation of 35 U.S.C. § 271(a). For example, Myriad, directly or through entities under its control or influence, makes, uses, offers for sale, and sells products and/or services within the United States that utilize methods for the detection of ratios of genetic sequences in a biological sample that infringe the claims of the ’706 patent, including, for example, through use of its myRisk® Hereditary Cancer test. For example, Myriad’s making, using, offering for sale, and selling of its myRisk® Hereditary Cancer product and services infringes at least claims 1, 2-3, 7-11, 15-16, 19, 20, 24, 27, 38-43, 47-48, 51-52, 56, and 59 of the ’706 patent.

31. Concerning claim 1 of the ‘706 patent and the Myriad myRisk® Hereditary Cancer product and services, for example, Myriad “dilut[es] isolated nucleic acid template molecules isolated from a biological sample to form a plurality of assay samples.” Myriad does so, for example, per its clinical handbook for myRisk® Hereditary Cancer, by extracting and purifying genomic DNA from blood or buccal samples to isolate the DNA, after which “fragmented DNA is dispersed in oil into picoliter-sized aqueous droplets that are merged with a dropletized Target Enrichment

Primer Library." Myriad "amplif[ies] the template molecules with the assay samples to form a population of amplified molecules," for example, per its clinical handbook, by subjecting the isolated DNA samples to "a PCR-based target-enrichment strategy," in which "[t]he resulting emulsion of microdroplets is subjected to PCR amplification." Myriad performs at least some of these activities using a target-enrichment machine. Myriad then "analyz[es] the amplified molecules in the assay samples of the set to determine a first number of assay samples which contain the selected genetic sequence and a second number of assay samples which contain a reference genetic sequence." It does so, for example, per its clinical handbook, by using a sequencing step where the "samples from up to 96 patients are pooled and loaded onto massively-parallel NextGen sequencers for 2 x 150 base paired-end reads," which provides sequence data and the first and second numbers of assay samples and other data. Myriad thus performs at least some of such a step using a NextGen Sequencing machine. Myriad "compar[es] the first number to the second number to ascertain a ratio which reflects the composition of the biological sample." It does so, for example, per its clinical handbook, by using a combination of commercial and laboratory-developed software to analyze, for example, base-calling, alignment, variant identification, annotation, and quality metrics of the NextGen Sequencing data to ascertain a ratio to reflect the composition of the sample. By performing each of the activities described above in connection with its myRisk® Hereditary Cancer products and services, Myriad conducts each and every step recited in claim 1 of the '706 patent and thus infringes at least claim 1 of the '706 patent.

32. Myriad's infringement of the '706 patent has caused damage to and continues to cause damage to Plaintiffs.

33. On information and belief, Myriad will continue in and enlarge its infringement of the '706 patent unless and until it is enjoined by this Court.

COUNT II
(Direct Infringement of United States Patent No. 7,824,889 by Myriad)

34. Plaintiffs reallege and incorporate herein by reference the allegations stated in paragraphs 1-33 of this Complaint.

35. Myriad has infringed and continues to directly infringe the '889 patent in violation of 35 U.S.C. § 271(a). For example, Myriad, directly or through entities under its control or influence, makes, uses, offers for sale, and sells products and/or services within the United States that utilize methods for the determination of allelic imbalances in a biological sample that infringe the claims of the '889 patent, including, for example, through use of its myRisk® Hereditary Cancer test. For example, Myriad's making, using, offering for sale, and selling its myRisk® Hereditary Cancer product and services infringes at least claims 1, 4-9, and 12-22 of the '889 patent.

36. Concerning claim 1 of the '889 patent and the Myriad myRisk® Hereditary Cancer product and services, for example, Myriad "distribut[es] isolated nucleic acid template molecules to form a set comprising a plurality of assay samples." Myriad does so, for example, per its clinical handbook for myRisk® Hereditary Cancer, by extracting and purifying genomic DNA from blood or buccal samples to isolate the DNA, after which "fragmented DNA is dispersed in oil into picoliter-sized aqueous droplets that are

merged with a dropletized Target Enrichment Primer Library." Myriad "amplif[ies] the template molecules within the set to form a population of amplified molecules in individual assay samples of the set," for example, per its clinical handbook, by subjecting the isolated DNA samples to "a PCR-based target-enrichment strategy," in which "[t]he resulting emulsion of microdroplets is subjected to PCR amplification." Myriad performs at least some of these activities using a target-enrichment machine. In using a target-enrichment machine to perform the amplification, upon information and belief, "between 0.1 and 0.9 of the assay samples yield an amplification product of at least one of the selected and reference genetic sequences." Myriad then "analyz[es] the amplified molecules in the assay samples of the set to determine a first number of assay samples which contain a selected genetic sequence on a first chromosome and a second number of assay samples which contain a reference genetic sequence on a second chromosome." It does so, for example, per its clinical handbook, by using a sequencing step where the "samples from up to 96 patients are pooled and loaded onto massively-parallel NextGen sequencers for 2 x 150 base paired-end reads," which provides sequence data and the first and second numbers of assay samples and other data. Myriad thus performs at least some of such a step using a NextGen sequencing machine. Myriad "compar[es] the first number of assay samples to the second number of assay samples to ascertain an allelic imbalance in the biological sample." It does so, for example, per its clinical handbook, by using a combination of commercial and laboratory-developed software to analyze, for example, base-calling, alignment, variant identification, annotation, and quality metrics of the NextGen sequencing data to ascertain an allelic imbalance in the sample. By

performing each of the activities described above in connection with its myRisk® Hereditary Cancer products and services, Myriad conducts each and every step recited in claim 1 of the ’889 patent and thus infringes at least claim 1 of the ‘889 patent.

37. Myriad’s infringement of the ’889 patent has caused damage to and continues to cause damage to Plaintiffs.

38. On information and belief, Myriad will continue in and enlarge its infringement of the ’889 patent unless and until it is enjoined by this Court.

COUNT III
(Direct Infringement of United States Patent No. 7,915,015 by Myriad)

39. Plaintiffs reallege and incorporate herein by reference the allegations stated in paragraphs 1-38 of this Complaint.

40. Myriad has infringed and continues to directly infringe the ’015 patent in violation of 35 U.S.C. § 271(a). For example, Myriad, directly or through entities under its control or influence, makes, uses, offers for sale, and sells products and/or services within the United States that utilize methods for the determination of allelic imbalances in a biological sample that infringe the claims of the ’015 patent, including, for example, through use of its myRisk® Hereditary Cancer test. For example, Myriad’s making, using, offering for sale, and selling of its myRisk® Hereditary Cancer product and services infringes at least claims 1, 5-13, 16, and 18 of the ’015 patent.

41. Concerning claim 1 of the ‘015 patent and the Myriad myRisk® Hereditary Cancer product and services, for example, Myriad “distribut[es] isolated nucleic acid template molecules to form a set comprising a plurality of assay samples.” Myriad does

so, for example, per its clinical handbook for myRisk® Hereditary Cancer, by extracting and purifying genomic DNA from blood or buccal samples to isolate the DNA, after which "fragmented DNA is dispersed in oil into picoliter-sized aqueous droplets that are merged with a dropletized Target Enrichment Primer Library." Myriad "amplif[ies] the isolated nucleic acid template molecules within the set to form a population of amplified molecules in individual assay samples of the set," for example, per its clinical handbook, by subjecting the isolated DNA samples to "a PCR-based target-enrichment strategy," in which "[t]he resulting emulsion of microdroplets is subjected to PCR amplification." Myriad performs at least some of these activities using a target-enrichment machine. In using a target-enrichment machine to perform the amplification, upon information and belief, "between 0.1 and 0.9 of the assay samples yield an amplification product of at least one of the first and second allelic forms of the marker." Myriad then "analyz[es] the amplified molecules in the assay samples of the set to determine a first number of assay samples which contain a first allelic form of a marker and a second number of assay samples which contain a second allelic form of the marker." It does so, for example, per its clinical handbook, by using a sequencing step where the "samples from up to 96 patients are pooled and loaded onto massively-parallel NextGen sequencers for 2 x 150 base paired-end reads," which provides sequence data and the first and second numbers of assay samples and other data. Myriad thus performs at least some of such a step using a NextGen sequencing machine. Myriad "compar[es] the first number of assay samples to the second number of assay samples to ascertain an allelic imbalance in the biological sample." It does so, for example, per its clinical handbook, by using a combination of

commercial and laboratory-developed software to analyze, for example, base-calling, alignment, variant identification, annotation, and quality metrics of the NextGen sequencing data to ascertain an allelic imbalance in the sample. By performing each of the activities described above in connection with its myRisk® Hereditary Cancer products and services, Myriad conducts each and every step recited in claim 1 of the '015 patent and thus infringes at least claim 1 of the '015 patent.

42. Myriad's infringement of the '015 patent has caused damage to and continues to cause damage to Plaintiffs.

43. On information and belief, Myriad will continue in and enlarge its infringement of the '015 patent unless and until it is enjoined by this Court.

COUNT IV
(Direct Infringement of United States Patent No. 8,859,206 by Myriad)

44. Plaintiffs reallege and incorporate herein by reference the allegations stated in paragraphs 1-43 of this Complaint.

45. Myriad has infringed and continues to directly infringe the '206 patent in violation of 35 U.S.C. § 271(a). For example, Myriad, directly or through entities under its control or influence, makes, uses, offers for sale, and sells products and/or services within the United States that utilize methods for the detection of a quantity of a genetic sequence in a mixed population of human genomic sequences that infringe the claims of the '206 patent, including, for example, through use of its myRisk® Hereditary Cancer test. For example, Myriad's making, using, offering for sale, and selling of its myRisk®

Hereditary Cancer product and services infringes at least claims 1-19, 21-22, and 24-28 of the ’206 patent.

46. Concerning claim 1 of the ‘206 patent and the Myriad myRisk® Hereditary Cancer product and services, for example, Myriad “distribut[es] or dilut[es] a mixed population of cell-free, human genomic nucleic acid template molecules from a sample in which the fraction of mutant alleles is less than 20%, into a set comprising at least fifteen assay samples such that said at least fifteen assay samples each comprises less than ten template molecules.” Myriad does so, for example, per its clinical handbook for myRisk® Hereditary Cancer, by extracting and purifying genomic DNA from blood or buccal samples to isolate the DNA, after which “fragmented DNA is dispersed in oil into picoliter-sized aqueous droplets that are merged with a dropletized Target Enrichment Primer Library.” Myriad “amplif[ies] the template molecules in the assay samples, wherein an assay sample with a single template molecule forms homogeneous amplification products in the assay sample,” for example, per its clinical handbook, by subjecting the isolated DNA samples to “a PCR-based target-enrichment strategy,” in which “[t]he resulting emulsion of microdroplets is subjected to PCR amplification.” Myriad performs at least some of these activities using a target-enrichment machine. Myriad then “analyz[es] by determining nucleic acid sequence of amplification products in the assay samples of the set with homogeneous amplification products to determine a first number of assay samples in the set which contain the first sequence and a second number of assay samples in the set which contain the second sequence.” It does so, for example, per its clinical handbook, by using a sequencing step where the “samples from

up to 96 patients are pooled and loaded onto massively-parallel NextGen sequencers for 2 x 150 base paired-end reads," which provides sequence data and the first and second numbers of assay samples and other data. Myriad thus performs this step using a NextGen sequencing machine. Myriad "compar[es] the first number to the second number to ascertain a ratio which reflects the composition of the mixed population." It does so, for example, per its clinical handbook, by using a combination of commercial and laboratory-developed software to analyze, for example, base-calling, alignment, variant identification, annotation, and quality metrics of the next generation sequencing data to ascertain a ratio to reflect the composition of the sample. As described in a March 2016 press release, for example, Myriad then "identif[ies] a mutation in the mixed population if a statistically significant fraction of assay samples comprises the second sequence," through statistical analysis. By performing each of the activities described above in connection with its myRisk® Hereditary Cancer products and services, Myriad conducts each and every step recited in claim 1 of the '206 patent and thus infringes at least claim 1 of the '206 patent.

47. Myriad's infringement of the '206 patent has caused damage to and continues to cause damage to Plaintiffs.

48. On information and belief, Myriad will continue in and enlarge its infringement of the '206 patent unless and until it is enjoined by this Court.

49. With respect to all of the counts and patents asserted in this complaint, when discussing ways in which Myriad infringes or meets various limitations of the claims, Plaintiffs are providing examples of such ways and examples of infringing

methods. These examples are not intended to identify all such ways or all infringing methods.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs pray that this Court:

A. Enter a judgment that Myriad has directly infringed each of the Patents-in-Suit;

B. Grant a permanent injunction restraining and enjoining Myriad, its officers, directors, agents, servants, employees, successors, assigns, parents, subsidiaries, affiliated or related companies, and attorneys from making, using, offering for sale, and/or selling its myRisk® Hereditary Cancer products and services and infringing the Patents-in-Suit, including a permanent injunction prohibiting Myriad from making, using, offering for sale, and selling its myRisk® Hereditary Cancer products and services;

C. Award Plaintiffs damages in an amount sufficient to compensate Plaintiffs for Myriad's infringement of the Patents-in-Suit, but not less than a reasonable royalty;

D. Award prejudgment interest to Plaintiffs pursuant to 35 U.S.C. § 284;

E. Declare this case exceptional under 35 U.S.C. § 285 and award Plaintiffs its reasonable attorneys' fees, expenses and costs incurred in this action;

F. Award Plaintiffs its costs incurred in this action, including its attorneys' fees; and

G. Grant such other and further relief as this Court may deem just and proper.

DEMAND FOR JURY TRIAL

Plaintiffs hereby demand a jury trial on all issues appropriately triable by a jury.

Dated: Sept. 7, 2016

Respectfully submitted,

/s/ *Steven Gardner*

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